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EXAMINER	
A. PHI DIEU TRAN	
ART UNIT	PAPER NUMBER
3633	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/510,691	HALL, BRUCE S	
	Examiner	Art Unit	
	PHI D. A	3633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2009*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19-21,23-35,37-39,41 and 52-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-21,23-35,37-39,41 and 52-71* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. PRODUCT BY PROCESS CLAIM:

" The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant."

The above office policy applies to the limitations of " cured", " sprayed" of claims 14, 27, 30-31, 38, and 52-53, 70.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 6-7, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph).

Diamond (...907, figure 14) shows a method of providing a blast resistance of a structure (40) comprising spraying a layer of elastomer material (920A or 920B only, not both layers 920B and 920A) to form a blast resistant panel of a predetermine thickness in the range of about 100 mil to about 250 mil (the range is disclosed by the reference's range of (.5-12) inch thick in paragraph 53 for the material divided by half as the thickness is to layer 920A or 920B only, not both layers), once cured, securing the panel to a wall of the structure (40, 44), the elastomer material being polyurethane (paragraph 51), the panel is flexible, the spraying said layer of elastomeric material comprising spraying (nozzle 38) the layer directly onto a molding surface, fastener elements (247, 250, 865, 1372) for securing the cured layer to a surface of a structure, the panel having a thickness of about 250mil (within the disclosed range of (0.5-12inch)/2), the

blast resistant panel extending from at least two opposing edges of the wall of the structure with a first of the opposing edges being adjacent a top of an outer perimeter of the wall of the structure (the glass panel) and a second of the opposing edges being adjacent a bottom of the outer perimeter of the wall of the structure.

Diamond (907) further discloses that the panel (816) can be cut to fit various shapes and sizes of windows.

Diamond (907) does not show the thickness in the range of about 100 mil to less than 250 mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond (..907)'s panel to show the thickness in the range of about 100 mil to less than 250 mil because it would have been an obvious matter of engineering design choice to modify the panel's thickness from about 250 mil to a little less than 250 mil since a thickness dimension little more/less than 250 mil would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third paragraph.

3. Claims 14-15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph).

Diamond (...907, figure 14) shows a blast resistant panel comprising a cured layer of elastomer material (920A or 920B only, not both layers 920B and 920A) having predetermined thickness in the range of about 100 mil to about 250 mil (the range is disclosed by the reference's range of (.5-12) inch thick in paragraph 53 for the material divided by half as the thickness is to layer 920A or 920B only, not both layers), fastener elements (247, 250, 865, 1372) for securing the cured layer to a surface of a structure, the blast resistant panel extending from at least two opposing edges of the wall of the structure with a first of the opposing edges being adjacent a top of an outer perimeter of the wall of the structure (the glass panel) and a second of the opposing edges being adjacent a bottom of the outer perimeter of the wall of the structure, the panel is flexible, the elastomer material being polyurethane (paragraph 51), the panel is flexible.

Diamond (907) does not show the thickness in the range of about 100 mil to less than 250 mil, the thickness of about 180 mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond (..907)'s panel to show the thickness in the range of about 100 mil to less than 250 mil, the thickness of about 180 mil because it would have been an obvious matter of engineering design choice to modify the panel's thickness from about 250 mil to a little less than 250 mil since a thickness dimension little more/less than 250 mil would provide the same function of protecting a wall against external forces and the fact that such a change in

dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third paragraph.

Diamond (907) as modified shows all the claimed structural limitations, and is inherently able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking as set forth.

4. Claims 3, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph) as applied to claim 1 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

5. Claims 4-5, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907 in view of applicant's disclosure(page 8 third paragraph) as applied to claim 2, 7 or 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800% because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

6. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907 in view of applicant's disclosure(page 8 third paragraph) as applied to claim 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800% because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

7. Claims 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph) as applied to claim 1 or 6 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface.

Makami et al discloses the step of spraying layers of elastomers on a fabric reinforcement layer (1).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph) as applied to claim 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of applicant's disclosure(page 8 third paragraph) as applied to claim 14 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric

reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907), Applicant's disclosure page 8 and Fyfe (6806212) as applied to claim 16 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

11. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Applicant's disclosure page, Fyfe (6806212) and Makami et al as applied to claim 24 above and further in view of Benedict et al (5681612).

Diamond as modified shows all the claimed limitations except for the fabric reinforcing layer being of aramid fibers or polyester fibers.

Benedict et al discloses fabric reinforcing layer being of aramid fibers or polyester fibers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the fabric reinforcing layer being of aramid fibers or polyester fibers because these fabric are readily available and provides good strength for the composite structure as taught by Benedict et al.

12. Claims 14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santos (5347775) in view of Diamond (6898907) and Applicant's disclosure page 8.

Santos shows a blast resistant panel comprising a panel (40) having a predetermined thickness, fastener elements (56, 56') for securing the panel to a wall of a structure (the wall) so that the panel extends from at least two opposing edges of the wall of the structure with a first of the opposing edges abutting a top of an outer perimeter of the wall of the structure (the window pane) and a second of the opposing edges abutting a bottom of the outer perimeter of the wall of the structure, a channel member (20) secured to the panel around at least a portion of the peripheral thereof.

Santos does not show the panel being made of elastomeric material having a thickness in the range of about 180mil to less than 250 mil, the material being polyurethane.

Diamond shows a panel being made of elastomeric material and a panel thickness of 250 mil, the material being polyurethane.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Santos' structure to show the panel being made of elastomeric material of about 250 mil, the material being polyurethane as taught by Diamond because the thickness and elastomeric material would enable the panel to withstand and protect a window structure against stormy weather, and having the thickness in the range of about 180 mil to less than 250 mil would have been an obvious matter of engineering design since a thickness dimension little

more/less than 250 mil would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third paragraph.

Santos as modified shows all the claimed structural limitations, and is inherently able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking as set forth.

13. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Carson (5242207) and applicant's disclosure page 8.

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure from a top of an outer perimeter of the wall (the parts 3 and 4) to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the wall to a right side of the outer perimeter of the wall with said blast-resistant panel, a pair of opposing sides depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, a U-shaped steel channel along a top portion, a bottom portion, a first side portion of the periphery (figure 1), the panel being cured (inherently so as it is of plastic), the channel is fastened to an interior surface of the structure (inherently so as no structure is claimed and no relationship between the structure and the system is claimed with respect to position).

Haas does not show the plastic being a flexible blast resistant elastomeric material having a predetermined thickness in a range between about 100 mil and to less than 250 mil, the fiber being a fabric reinforcing layer.

Carson et al shows a panel having a thickness in the range of 100 mil to 250mil to protect the structure(17).

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 5 lines 65-col 6 lines 2-3).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr, and having the thickness of the panel in the range of 100-250 mil as taught by Carson et al would provide proper protection for the structure against vandalism, and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil since it would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

Haas as modified shows all the claimed structural limitations, and is able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.

14. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Carson (5242207) and applicant's disclosure page 8 as applied to claim 27 above and further in view of White (6907811).

Haas as modified shows all the claimed limitations except for a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

White (figure 5) discloses a Z-shaped channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels because it would allow for the supporting of multiple panels to span and cover a large area as taught by White.

15. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Applicant's disclosure page 8.

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, the panel sized to extend across and cover an area between opposing sides of the wall of the structure (the limitation does not limit the covering only to the area therebetween) with a first of the opposing sides abutting a top of an outer perimeter of the wall of the structure and a second of the opposing sides abutting a bottom of the outer perimeter of the wall of the structure, the channel is adapted to fasten to an interior surface of the structure (inherently capable of doing so).

Haas does not show the plastic being a flexible blast resistant elastomeric material, the thickness being in the range of about 100mil to less than 250mil.

Diamond shows a flexible blast resistant elastomer polyurethane panel to protect the structure against storm, the thickness being 250 mil (one of part 920A, 920B).

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being a flexible blast resistant elastomeric polyurethane material with a thickness of 250 mil because it would provide proper protection for the structure against stormy weather as taught by Diamond and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil since it would provide the same function of protecting a wall against external forces and the fact that such a change in dimension

would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

Haas as modified shows all the claimed limitation, and is able to function to resist an explosive blast having peak incident overpressure about 17 psi or more and a reflected pressure of about 51 psi or more, and the flexible blast resistant panel being to impede passage through the panel of wall fragments resulting from the explosive blast.

16. Claims 31-35, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Applicant's disclosure page 8 as applied to claim 30 above, and further in view of Madden Jr (5811719).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber and the fiber being open grid pattern..

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

Per claims 32-34, Haas as modified shows the fabric layer being embedded in the elastomeric material, the fabric being of aramid fiber and the fiber being open grid pattern (Madden col 5 line 66).

Per claim 37, Haas as modified shows a panel that provides for the containment of shrapnel between the elastomeric panel and the surface of the wall.

17. Claim 38-39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond as applied to claim 30 above and further in view of Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%. because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Per claim 41, Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea

material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

18. Claims 52, 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Fyfe (6806212), and applicant's disclosure page 8.

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure so as to cover the wall of a structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall with the panel, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, a pair of opposing sides depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, the panel being cured (inherently so as it is of plastic).

Haas does not show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100 to less than 250 mil, a percent elongation at break in a range of about 400-800%, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 025 inch.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fiber layer being open grid pattern.

Fyfe discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100 to less than 250 mil, a percent elongation at break in a range of about 400-800% and a tensile strength of about 2000psi or greater, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 025 inch because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr., the panel having the percent elongation at break in a range of about 400-800% would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe, having the fiber defining an open grid pattern with opening of up to about 0.5 inch by 0.25 inch would allow for easy adhesion and bonding of the elastomer to the fabric, and the panel having a thickness in the range of about 100 to 250mil would provide for good protective strength to the cover, and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil since it would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

19. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Applicant' disclosure page 8 and Fyfe (6806212) as applied to claim 52 above, and further in view of Fonseca (2003/0159390).

Haas as modified shows all the claimed limitations except for the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel.

Fonseca (figure 2c) discloses fasteners (16) passing through both a channel system (22c) and the periphery of a panel (12) to securely mount the panel and the channel system fixedly in place.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel because it would enable the secure fastened in place of the panel with the channel reinforcing the edge of the panel as taught by Fonseca.

20. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Applicant's disclosure page 8, and Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea

material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

21. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garmong (5749178) in view of applicant's disclosure page 8.

Garmong shows a blast resistance panel (1, figure 4) formed of an elastomeric material (rubber), the panel being secured to an interior surface of an exterior wall in a room of a structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of the structure with a first of the opposing edges abutting a top of an outer perimeter of the wall of the structure and a second of the opposing edges abutting a bottom of the outer perimeter of the wall of the structure, the blast resistant panel (a panel made of rubber is inherently blast resistant) being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion (when there is an explosion), the explosion impacting the exterior wall first, and then impacting the blast resistant panel (assuming the explosion comes from outside).

Garmong does not show the panel being formed by first sprayed, and then cured, the panel having a thickness in the range of about 100mil to less than 250mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Garmong's structure to show the panel being formed by first sprayed and then cured since it is well known in the art to form a panel either by spraying or molding and once having ordinary skill in the art would have found it obvious to utilize either method for

forming a rubber panel, and having a thickness in the range of about 100mil to less than 250mil, and the panel having a thickness in the range of about 100 to 250mil would have been obvious to one having ordinary skill as long as the dimension allows the panel to prevent galvanic corrosion from occurring, and one having ordinary skill in the art would also have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil as long as it provides the same function of protecting a the inner structure from corrosion, and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

Garmong as modified shows all the claimed limitations. The claimed method steps would have been the obvious method steps of forming blast resistance of a structure with Garmong's modified structures.

22. Claims 57, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (5242207) in view of Sato et al (4730023).

Carson et al (figure 6) shows a system comprising a flexible, blast resistant panel (20) of an acrylic material having a predetermined thickness in the range of about 100-250mil (col 3 line 54), a channel (26, 29) attached around a periphery of the panel, a plurality of fasteners (43) to fasten the channel to a wall of a structure (the wall of a vehicle), the panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of the opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of the opposing sides abutting a bottom of the outer perimeter of the wall of the structure, the panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an

explosion (inherently capable of functioning as claimed), the panel having a thickness of about 180 mil.

Carson et al does not show the panel being made of acrylic elastomer material.

Sato discloses the use of acrylic elastomers for forming transparent panel being well known in the art (col 2 lines 11-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's structure to show the acrylic panel being made of acrylic elastomer because it enhances the weathering ability of the panel as taught by Sato et al.

Carson as modified further shows the system being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17psi or more and a reflected pressure of about 51 psi or more (it is unclear what pressure the panel is subjected to yet).

23. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (5242207) in view of Sato et al (4730023) as applied to claim 57 and further in view of applicant's disclosure page 8.

Carson et al as modified shows all the claimed limitations except for the panel having a thickness of about 180 mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Garmong's modified structure to show the panel being formed a thickness of

about 180mil since one having ordinary skill in the art would also have found it to be an obvious matter of engineering design choice to have a thickness of about 180mil as long as it provides the proper strength and protection for the window, and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

24. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garmong in view of Applicant's disclosure page 8.

Garmong as modified shows all the claimed limitations except for the panel having a thickness of about 180 mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Garmong's modified structure to show the panel being formed a thickness of about 180mil since one having ordinary skill in the art would also have found it to be an obvious matter of engineering design choice to have a thickness of about 180mil as long as it provides same function of protecting a the inner structure from corrosion, and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third.

Garmong as modified shows all the claimed limitations. The claimed method steps would have been the obvious method steps of forming blast resistance of a structure with Garmong's modified structures.

25. Claims 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (5242207) in view of Sato et al (4730023) and Applicant's disclosure page 8 as applied to claim 57 above and further in view of Fyfe.

Carson et al as modified shows all the claimed limitations except for the elastomeric material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

26. Claims 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al in view of Sato et al and Applicant's disclosure page 8 as applied to claim 57 above and further in view of Madden Jr (5811719).

Carson et al as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, the layer is constructed of at least one of aramid fibers and polyester fibers.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's modified structure to show the panel having a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a

protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

27. Claims 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garmong in view of applicant's disclosure page 8 as applied to claim 56 above and further in view of Fyfe (6806212).

Garmong as modified shows all the claimed limitations except for the material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Garmong's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

Per claim 60, Garmong as modified by Fyfe further shows the material having a percent elongation at break in a range of about 100-800%.

Garmong as modified shows all the claimed structural limitations. The claimed method steps would have been the obvious method steps of providing protection to the wall with Garmong's modified structures.

28. Claims 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garmong in view of applicant's disclosure page 8 as applied to claim 56 above and further in view of Makami et al (4478895).

Garmong as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, spraying the layer of elastomeric material comprising spraying the layer directly onto a molding surface.

Makami et al discloses the step of spraying layers of elastomers on a fabric reinforcement layer (1).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Garmong's modified structure to show the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

29. Claims 57, 66, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907), applicant's disclosure page 8 and Carson et al (5242207).

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure with a plurality of fasteners, so as to cover the wall of a structure from a top of an outer perimeter of the wall of the structure and a second of the opposing sides abutting a bottom of the outer perimeter of the wall of the structure.

Haas does not show the plastic being an elastomeric material, the panel having a thickness in the range of about 100 mil to about 250 mil.

Diamond discloses a layer of elastomeric material forming a protective layer for a wall.

Carson et al discloses a protective panel (20) having a thickness of 100-250mil.

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material as taught by Diamond, the panel having a thickness in the range of about 100 mil to about 250 mil as taught by Carson et al since providing the desired thickness and material would enable the formation of a strong protective structure for the wall, and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil since it would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third paragraph.

Haas as modified shows all the claimed limitations, and the able to be adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (also, it is unclear how the explosion effects the panel as it is not set forth).

30. Claims 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907), applicant's disclosure page 8, and Carson et al (5242207) as applied to claim 56 above and further in view of Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

31. Claims 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907), applicant's disclosure page 8, and Carson et al (5242207) as applied to claim 57 above and further in view of Madden Jr (5811719).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, the layer is constructed of at least one of aramid fibers and polyester fibers.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a fabric reinforcing layer

because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

32. Claims 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of applicant's disclosure page 8, Sato(4730023) and Fonseca.

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure so as to cover the wall of a structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall with the panel, a plurality of fasteners to fasten the channel and the panel to a wall of a structure, the flexible blast resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of the opposing sides abutting a top of an outer perimeter of the wall of the structure, a second of the opposing sides abutting a bottom of the outer perimeter of the wall of the structure, a third of the opposing sides abutting a left side of the outer perimeter of the wall of the structure, and a fourth of the opposing sides abutting a right side of the outer perimeter of the wall of the structure, the panel being cured (inherently so as it is of plastic).

Haas does not show the plastic being an elastomeric material, the panel having a thickness of about 100 to less than 250 mil, the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel.

Fonseca (figure 2c) discloses fasteners (16) passing through both a channel system (22c) and the periphery of a panel (12) to securely mount the panel and the channel system fixedly in place.

Sato discloses the use of acrylic elastomers for forming transparent panel being well known in the art (col 2 lines 11-15).

Applicant's specification page 8 third paragraph discloses the thickness can range from 100-250 mil, or even thicker than 250 mil " of about 100 to about 250 mil. Even more....thicker than 250 mil may also be used".

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material since it enhances the weathering ability of the panel as taught by Sato et al, and the panel having a thickness in the range of about 100 to 250mil would provide for good protective strength to the cover, and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil since it would provide the same function of protecting a wall against external forces and the fact that such a change in dimension would have been an obvious matter of engineering design choice is further evidenced by applicant's disclosure on page 8 third, and a person having ordinary skill in the art would have it obvious to modify Hass' structure to show the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel since it would enable the secure fastened in place of the panel with the channel reinforcing the edge of the panel as taught by Fonseca.

Per claim 71, Haas as modified shows all the claimed limitations and able to function to resist an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (it is unclear also how the pressure is acting on the panel).

Response to Arguments

1. Applicant's arguments with respect to claims 1-17, 19-21, 23-35, 37-39, 41, 52-71 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different panel mounting systems.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn can be reached on 571-272-6670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phi D A/
Primary Examiner, Art Unit 3633

Phi Dieu Tran A

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